

Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph 0007, with the following rewritten paragraph:

[0007] The substance to be absorbed by the skin may be applied to the skin by way of a probe or by a syringe. The syringe outputs the substance by way of a tube that is connected to an output of the syringe at one end of the tube and where the other end of the tube is disposed adjacent to a groove (or trough) surrounding a central electrode of an array of electrodes. Such a substance that is provided to the skin may be a cream, liquid or gel (for example, collagen, or cocoa butter, or suntan oil, or other types of skin enhancement lotions), or a drug to be administered into the skin.

Please replace paragraph 0040, with the following rewritten paragraph:

[0040] The electrical pulses that are applied on the skin in order to enhance the transpiration of the skin are pulses obtained by a discharge of a capacitor on the skin. That is, the skin acts as a capacitive load when a probe is applied to the skin. A square-wave pulse input to a primary winding 420 of the transformer 410 of Figure 4, with an output of the secondary winding 440 of the transformer 410 being coupled to the skin by way of the electrodes, provides the same effect as a discharging capacitor. However, by using a transformer 410 instead of a capacitor, one can obtain current control with respect to electrical pulses applied to the skin, so that the amount of current applied to the skin during treatment of the skin does not exceed a predetermined maximum current value.

Please replace paragraph 0040A, with the following rewritten paragraph:

[0040A] The exponential pulses are generated during the rising edge and falling edge of each square-wave input pulse that is input to the transformer 410 from a square-wave pulse generator, and have opposite sign (positive exponential pulse due to the rising edge of a square-wave input pulse, negative exponential pulse due to the falling edge of the same square-wave input pulse). With the use of such a pulse generator 400 as shown in Figure 4, it is possible to apply a burst of separate pulses (e.g., 500 to 1500 per second) to the skin, with

adjacent pulses being of opposite polarity and which provides a transpiration effect better than just providing one pulse or many pulses of the same polarity to the skin.

Please replace paragraph 0105, with the following rewritten paragraph

[0105] In a thirteenth embodiment of the invention, with reference to Figures 21-24, a skin treatment device is configured to deliver a defined amount of lidocaine, ascorbic acid, or other type of skin treatment drug into the dermis. On the head of a probe which can be constructed as described with respect to the third embodiment, i.e., with a central electrode 2110 and eight electrodes 2120 disposed around the central electrode, where the central electrode 2110 is connected to one output of the pulse transformer and the eight electrodes 2120 are connected to the other output of the pulse transformer, a plate 2210 is coupled to the head (see Figures 23 and 24), with the electrodes 2110, 2120 provided between the head 2130 of the probe and the patient's skin.

Please replace paragraph 0108, with the following rewritten paragraph:

[0108] An experiment performed on a mouse demonstrated that the same amount of radioactive lidocaine is transported in to the skin, after a microdermabrasion treatment, by the system and method according to the thirteenth embodiment, as compared to an iontophoretic device set at the same value of the product of the current * ("*" is a multiplication operator) time, where the current of the iontophoretic device is set in order to be in a first positive phase ~~positive~~ and in a second negative phase and the current of the system and method according to the thirteenth embodiment is set such that the product average current per pulse per total time of the positive pulses has the same value as the positive phase of the iontophoretic device, and the product average current per pulse per total time of the negative pulses has the same value as the negative phase of the iontophoretic device.

Please replace paragraph 0127, with the following rewritten paragraph:

[0127] Figure 32A shows a side sectional view of a probe head 3210 that is coupled to a head attachment 3220. The head attachment 3220 is preferably made from polypropylene (it can be a plastic component), and it has nine cylindrical openings 3222 that allow nine

separate cylindrical sponges to be fitted therein. Figure 32B shows a front view of the head attachment 3220, and Figure 32C shows a side sectional view of one of the cylindrical openings 3222 of the attachment head 3220, whereby a cylindrical sponge 3224 is fitted within the cylindrical opening 3222. Alternatively to using cylindrical sponges, cotton gauzes or hydrogel pads can be fitted within the cylindrical openings 3222, or a combination of these components may be used (e.g., three gauze pads, three sponges, and three hydrogel pads). The attachment head 3220 is shown having nine separate cylindrical openings 3220 for the case where there are nine electrodes disposed on the face of the probe, whereby Figure 32A shows three of the electrodes 3230 in a side view (the other electrodes on the face of the probe are blocked from view, but see Figure 2C for the disposition of the nine electrodes).